

Program

VACCINE TECHNOLOGY II

June 1-6, 2008

Grande Real Santa Eulalia Resort

Albufeira, Algarve, Portugal

Co-Chairs:

Barry C. Buckland, Ph.D.

Research Vice President, Bioprocess R&D, Merck & Co., Inc.

John G. Auniņš, Ph.D.

Executive Scientific Director, Bioprocess R&D, Merck & Co., Inc.

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Principal Investigator Animal Cell Technology Laboratory, ITQB/IBET

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Sr. Vice President Early Phase Programs, Wyeth Vaccine Research



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Organizing Committee

Manuel Carrondo, Professor and CEO, IBET, Portugal

Manon Cox, COO, Protein Sciences Corp., USA

Matthew Croughan, Professor, Keck Graduate Institute, USA

Anne De Groot, CEO, EpiVax, Inc., USA

Emilio Emini, Executive Vice President, Wyeth Pharmaceuticals, USA

Nathalie Garçon, Vice President, GlaxoSmithKline Biologicals, Belgium

Phillip Gomez, Principal, PRTM, USA

Michael Hoare, Professor, University College London, UK

David Kaslow, Vice President, Merck & Co., Inc., USA

Phil Minor, Head, Division of Virology, NIBSC, UK

Octavio Ramirez, Professor, Institute of Biotechnology, UNAM, Mexico

Rino Rappuoli, Vice President, Novartis Vaccines, Italy

Jerald Sadoff, CEO, Aeras Global TB Vaccine Foundation, USA

Volker Sandig, Vice President, ProBioGen AG, Germany

George Siber, Consultant, USA

John Vose, Consultant, France

David Weiner, Professor, University of Pennsylvania School of Medicine, USA

Sunday, June 1, 2008

03:30 pm – 05:30 pm	Registration
05:30 pm – 06:00 pm	Welcome and conference overview
06:00 pm – 07:00 pm	The Challenge of Providing an Effective, but Technically Complex, Vaccine to the Developing World Emilio Emini, Wyeth Pharmaceuticals, USA
07:00 pm – 08:00 pm	Reception
08:00 pm – 10:00 pm	Opening Dinner and entertainment

IMPORTANT ANNOUNCEMENTS

- Audiotaping, videotaping and photography of presentations are strictly prohibited.
- Speakers – Please leave at least 5 minutes for questions and discussion.
- Please do not smoke at any conference functions.
- Turn your cellular telephones to vibrate or off during technical sessions.
- Be sure to make any corrections to your name/contact information on the Master Participant List or confirm that the listing is correct. A corrected copy will be sent to all participants after the conference.

Monday, June 2, 2008

07:00 am – 08:30 am

Breakfast

08:30 am – 10:30 am

Session I: Immune System Function and Its Quantitation
(Sponsored by Merck & Co., Inc.)

Session Chair:

David Weiner, University of Pennsylvania School of Medicine

08:30 am – 09:00 am

Human Monoclonal Antibodies and Analytic Vaccinology

Antonio Lanzavecchia, Institute for Research in Biomedicine, Switzerland

09:00 am – 09:30 am

Utilizing Influenza Vaccination to Rapidly Clone High Affinity Human Monoclonal Antibodies and to Test the Concept of Original Antigenic Sin

Jens Wrammert, Emory University School of Medicine, USA

09:30 am – 10:00 am

Anti-viral Immune Responses in Lymph Nodes

Ulrich H. von Andrian, Harvard Medical School, USA

10:00 am – 10:30 am

Immunological Response to new DNA vaccines

David Weiner, University of Pennsylvania School of Medicine, USA

10:30 am – 11:00 am

Break
(Sponsored by Bioreliance)

11:00 am – 11:30 am

The First Clinical Efficacy Trial of an Adenovirus Type 5-Based HIV-1 Vaccine: The STEP Study

Danilo Casimiro, Merck & Co., Inc., USA

11:30 am – 12:00 pm

Quality Issues: The Good-Enough Vaccine

Phil Minor, NIBSC, UK

12:00 pm – 12:45 pm

New Methods for Detecting Adventitious Agents

David Onions, BioReliance Corporation, USA

12:45 pm – 01:30 pm

Lunch

01:30 pm – 03:30 pm

Ad hoc sessions, free time

03:30 pm – 06:00 pm

Session II: Virus and Replicon Vectors Vaccines
(Sponsored by GE Healthcare - WAVE Products Group)

Session Chairs:

Manuel Carrondo, IBET

Alexander von Gabain, Intercell AG

03:30 pm – 04:00 pm

Towards a Therapeutic Hepatitis C Vaccine – a Preclinical and Clinical Learning Curve

Alexander von Gabain, Intercell AG, Austria

04:00 pm – 04:30 pm

Delivery Devices and Approaches for Pre-Clinical and Clinical HIV Immunization

Britta Wahren, Karolinska Institute and Swedish Institute for Infectious Disease Control (SMI), Stockholm, Sweden

04:30 pm – 05:00 pm

Flavivirus Capsid Deletion Mutants as a New Vaccine Approach

Christian Mandl, Medical University Vienna, Austria

Monday, June 2, 2008 (continued)

- 05:00 pm – 05:30 pm **Viral Vectors – Coupling Innate Signals to Antigen Expression and Presentation**
Peter Liljeström, Karolinska Institute Stockholm, Sweden
- 05:30 pm – 06:00 pm **VEEV Replicon-Based Vaccines used in Heterologous Prime Boost Strategies Induce Lifelong Protection from Prostate Cancer and Therapy of Cervical Cancer in Mice and Robust Cell-Mediated Immunity in Rhesus Macaques**
W. Martin Kast, University of Southern California, USA
- 06:00 pm – 06:30 pm **Break**
(Sponsored by Pall Life Sciences)
- 06:30 pm – 08:30 pm **Session III: Emergent & Emergency Vaccines**
Session Chair:
Manon Cox, Protein Sciences Corp.
- 06:30 pm – 07:00 pm **Efficient and Economical Influenza Vaccines**
Alan Shaw, VaxInnate, USA
- 07:00 pm – 07:30 pm **Flublok, A High Dose Recombinant Influenza Vaccine**
Manon Cox, Protein Sciences, USA
- 07:30 pm – 08:00 pm **Challenges and Solutions for the Next Generation of Vaccines: Development of Cell Culture-based Live Attenuated Influenza Vaccine**
Jonathan Liu, MedImmune, Inc., USA
- 08:00 pm – 08:30 pm **Toward the Development of a SARS Vaccine**
Jeffrey Ulmer, Novartis Vaccines and Diagnostics, USA
- 08:30 pm – 09:30 pm **Dinner**
- 09:30 pm – 11:00 pm **Poster Reception**

Tuesday, June 3, 2008

- 07:00 am – 08:30 am **Breakfast**
- 08:30 am – 10:30 am **Session IV: Conjugate Vaccines**
Session Chair:
George Siber, Consultant
- 08:30 am – 09:00 am **Analytical and Manufacturing Challenges in Preparation of Bacterial Polysaccharide Conjugates**
Carl Frascch, Frascch Biologics Consulting, USA
- 09:00 am – 09:30 am **Development of Validated Assays for Measuring the Human Antibody Response to Polysaccharide Conjugate Vaccines**
Helena Käyhty, National Public Health Institute, Finland
- 09:30 am – 10:00 am **The Human Immune Response to Polysaccharides and Conjugates**
David Goldblatt, University College London, UK
- 10:00 am – 10:30 am **The Impact of Polysaccharide Conjugate Vaccines**
George Siber, Consultant, USA
- 10:30 am – 11:00 am **Break**
(Sponsored by Artelis)
- 11:00 am – 11:30 am **Regulatory Issues Associated with the Development of a Comprehensive Meningococcal Vaccine**
Ian Feavers, NIBSC, UK
- 11:30 am – 12:00 pm **TB Vaccine Development and Manufacturing**
Jerald Sadoff, Aeras Global TB Vaccine Foundation, USA
(Being presented by Walter Kallaur)
- 12:00 pm – 12:30 pm **Evaluating Novel Cell Substrates for use in Vaccine Manufacture**
Phil Krause, FDA/CBER, USA
- 12:30 pm – 01:00 pm **Epitope Driven GAIA HIV Vaccine Development: An Update**
Annie De Groot, EpiVax, Inc., USA
- 01:00 pm – 02:00 pm **Lunch**
- 02:00 pm – 04:00 pm **Session V: Adjuvants & Formulation**
Session Chair:
Nathalie Garçon, GlaxoSmithKline Biologicals
- 02:00 pm – 02:30 pm **The Improved ISCOMATRIX® Adjuvant**
Debbie Drane, CSL Ltd., Australia
- 02:30 pm – 03:00 pm **Adjuvanted Plasmid DNA-Based Vaccines**
Alain Rolland, Vical Inc., USA
- 03:00 pm – 03:30 pm **Exploiting Glycoengineered Yeast for the Development of Next Generation Vaccines**
Robert Davidson, GlycoFi, USA
- 03:30 pm – 04:00 pm **Enhancing Vaccine Immunogenicity Through use of CpG TLR9 Agonists and Other Adjuvants**
Risini Weeratna, Coley Pharmaceutical Group, Canada

Tuesday, June 3, 2008 (continued)

04:00 pm

Ad hoc sessions, free time for those not going on optional excursion. Those going on optional excursion should meet at 4:20 in hotel lobby for 4:30 departure.

04:30 pm

Optional Excursion/Dinner to Tavira where one can visit the medieval castle and old Moorish town. Dinner will be on your own and the buses will return to the hotel after dinner. Participants not going on the optional excursion will have dinner on their own either at the hotel or in a local restaurant.

Wednesday, June 4, 2008

- 07:00 am – 08:30 am **Breakfast**
- 08:30 am – 11:00 am **Session VI: Characterization of Complex Biologicals**
Session Chairs:
Robert Sitrin, Merck & Co., Inc.
- 08:30 am – 09:00 am **Quality Assessment of Cervarix™, GSK'S Cervical Cancer Vaccine, Manufactured with the Baculovirus Expression Vector System (BEVS)**
Marguerite Deschamps, GlaxoSmithKline, Belgium
- 09:00 am – 09:30 am **Characterization of Conjugate Vaccines**
Rasappa Arumugham, Wyeth Vaccines R&D, USA
- 09:30 am – 10:00 am **Characterization of Adenoviral Vector-Based Vaccines**
Katey Einterz Owen, Merck & Co., Inc., USA
- 10:00 am – 10:30 am **Focus on Aggregation: Causes, Impact & Characterization**
John Philo, Alliance Protein Laboratories, USA
- 10:30 am – 11:00 am **Developing *In-Vitro* Potency Assays to Monitor Process Development and Stability for Subunit Vaccine**
Ying Zhang, Wyeth Vaccines R&D, USA
- 11:00 am – 11:30 am **Break**
(Sponsored by GlaxoSmithKline Biologicals)
- 11:30 am – 12:00 pm **Challenge of Filing 4 New Vaccines at Once**
Keith Chirgwin, Merck & Co., Inc., USA
- 12:00 pm – 12:30 pm **PATH: Narrowing the Immunization Gap**
John Boslego, PATH, USA
- 12:30 am – 01:00 pm **Viral Vectors for Genetic Vaccination: Strategies, Vector Design and Production**
Juan Asenjo, University of Chile, Chile
- 01:00 pm – 02:00 pm **Lunch**
- 02:00 pm – 04:00 pm ***Ad hoc* sessions, free time**
- 04:00 pm – 06:10 pm **Session VII: VLP's & Inactivated Vaccines**
(Sponsored by Probiogen)
Session Chairs:
Octavio Ramirez, UNAM, Mexico
Kathrin U. Jansen, Wyeth Vaccine Research
- 04:00 pm – 04:30 pm **Controlling *in vitro* Assembly of Virus-like Particles: From Theory to Example(s)**
Adam Zlotnick, University of Oklahoma Health Sciences Center, USA
- 04:30 pm – 05:00 pm **Virus-Like Particles as Vaccine Platforms**
Bryce Chackerian, University of New Mexico, USA
- 05:00 pm – 05:30 pm **Alternate Rotavirus Vaccines: Inactivated Virus and VLPs**
Margaret Conner, Baylor College of Medicine, USA

Wednesday, June 4, 2008 (continued)

- 05:30 pm – 05:50 pm **Towards a Respiratory Syncytial Virus Vaccine Using Recombinant F Protein Transiently Expressed in Mammalian Cells**
Sophie Nallet, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland
- 05:50 pm – 06:10 pm **A Selective Recovery Methodology for the Clarification of Lipid-Envelope Virus-like Particles from *S. Cerevisiae***
Gaik Sui Kee, University College London, UK
- 06:10 pm – 06:40 pm **Break**
- 06:40 pm – 07:10 pm **Considerations for use of the “Animal Efficacy Rule”**
Karen Goldenthal, Consultant, USA
- 07:10 pm – 07:40 pm **De-risking Vaccine Development: Correlates of Success**
Fiona MacLaughlin, The Wellcome Trust, UK
- 07:40 pm – 08:00 pm **AGE1.CR – A Well Characterized Cell Substrate Designed for Production Vector Based Vaccines**
Volker Sandig, ProBioGen AG, Germany
- 08:00 pm – 09:15 pm **Dinner**
- 09:15 pm – 11:00 pm **Poster Reception**

Thursday, June 5, 2008

- 07:00 am – 08:30 am **Breakfast**
- 08:30 am –10:30 am **Session VIII: Veterinary Vaccines: Lessons to Learn for Human Vaccine Development**
(Sponsored by Merial Ltd.)
Session Chair:
Robert Nordgren, Merial Limited
- 08:30 am –09:00 am **Emerging Diseases, Zoonoses and Vaccines to Control Them**
Paul-Pierre Pastoret, World Organization for Animal Health, France
- 09:00 am –09:30 am **Avian Influenza Vaccine Development: Application Technology Platforms, Field Use and Predictors of Protection**
David E. Swayne, US Department of Agriculture, USA
- 09:30 am –10:00 am **Use of Alternate Hosts in the Modeling of Immune Profiling and Vaccine Recognition**
Lorne Babiuk, University of Saskatchewan, Canada
- 10:00 am –10:30 am **Use of Plasmid DNA Vaccine to Treat Melanoma in Dogs**
Jedd Wolchok, Memorial Sloane Kettering Cancer Center, USA
(Being presented by Robert Nordgren, Merial Limited)
- 10:30 am– 11:00 am **Break**
- 11:00 am– 01:00 pm **Session IX: Manufacturing of Vaccines**
Session Chairs:
John G. Auniš, Merck & Co., Inc.
Paula Marques Alves, ITQB/IBET
- 11:00 am– 11:30 am **Process Intensification for Large Scale Manufacturing Issues**
Jose Castillo, Artelis, Belgium
- 11:30 am– 12:00 pm **Multivalent Vaccines for Control and Eradication of FMD**
M. Susana Levy, Biogenesis-Bago S.A., Argentina
- 12:00 pm– 12:30 pm **Manufacturing and Regulatory Challenges During the Approval of the First Gene Therapy for Food Animals**
Henry Hebel, VGX Pharmaceuticals, USA
- 12:30 pm– 12:50 pm **Intensifying the Productivity of a Recombinant AD35 Manufacturing Process**
Alfred Luitjens, Crucell, Netherlands
- 12:50 pm– 01:10 pm **Affinity Chromatography of Cell Culture Derived Vaccinia Virus**
Michael Wolff, Max Planck Institute for Dynamics of Complex Technical Systems, Germany
- 01:10 pm – 02:10 pm **Lunch**
- 02:10 pm – 04:10 pm ***Ad hoc sessions, free time***

Thursday, June 5, 2008 (continued)

- 04:10 pm – 05:30 pm **Session IX: Manufacturing of Vaccines (cont'd)**
- 04:10 pm – 04:30 pm **Trouble-Shooting Fermentation and Primary Recovery Manufacturing Issues in Order to Optimize Antigen Expression Used as Vaccine Candidates Against Infectious Diseases**
Timothy Lee, Sanofi Pasteur, Canada
- 04:30 pm – 04:50 pm **Technology Transfer and Process Scale-Up**
Bo Arve, Wyeth Pharmaceuticals, USA
- 04:50 pm – 05:10 pm **Predictive Modeling in Rotavirus-like Particles Production: Improving Upstream and Downstream Processing Design**
Tiago Vicente, IBET, Portugal
- 05:10 pm – 05:30 pm **Implementation of Disposable Technology in Vaccines Manufacturing: An Approach to Extractables/Leachables Studies**
Hélène Pora, Pall Life Sciences, France
- 05:30 pm – 06:00 pm **Break**
- 06:00 pm – 08:00 pm **Session X: Vaccines in Developing Countries**
Session Chair:
Barry Buckland, Merck & Co., Inc.
- 06:00 pm – 06:30 pm **The Development of an Inactivated JE Vaccine for Endemic Countries**
Mahima Datla, Biological E, India
- 06:30 pm – 07:00 pm **Chickenguniya incidence and Vaccine Technology**
Krishna Ella, Bharat Biotech, India
- 07:00 pm – 07:30 pm **Vaccine Development for Developing Countries – Regulatory Approach in the European Union**
Manfred Haase, Consultant, Germany
- 07:30 pm – 08:00 pm **Developing Vaccines for Neglected Diseases**
Douglas Holtzman, Bill & Melinda Gates Foundation, USA
- 08:30 pm – 11:00 pm **Banquet & Closing**

Friday, June 6, 2008

07:00 am – 10:00 am

Breakfast and departure
(hotel check-out is noon)

Poster Presentations

1. **Metabolism of avian designer cells during influenza and MVA production**
Verena Lohr, Max Planck Institute for Dynamics of Complex Technical Systems, Germany
2. **Capturing of cell culture derived influenza viruses by sulphated cellulose membranes – A promising pseudo-affinity method for influenza vaccine production**
Lars Opitz, Max Planck Institute for Dynamics of Complex Technical Systems, Germany
3. **Anti-apoptotic action of one protein isolated from *Lonomia Obliqua* and the mitochondrial participation**
Ronaldo Zucatelli Mendonca, Instituto Butantan, Brazil
4. **Influenza A virus-like particles as vaccine: comparison and evaluation of different strategies**
Florian Krammer, Institute for Applied Microbiology, Austria
5. **Rabies virus glycoprotein (RYGP) expression in drosophila S2 cells and in BHK-21 cell infected by recombinant semliki forrest virus for vaccine purpose**
Pereira CA, Instituto Butantan, Brazil
6. **Towards a recombinant vaccine for heartwater**
Nontobeko Thema, Agricultural Research Council - Onderstepoort Veterinary Institute, South Africa
7. **Cryo-electron microscopy as a tool for imaging, characterization and structural analysis of biological solutions**
Clint Potter, Nanolmaging Services, USA
8. **Insect cells as an efficient platform for the production of AAV-based vaccines**
Marc G. Aucoin, University of Waterloo, Canada
9. **Engineering of an E. coli host for production of plasmid biopharmaceuticals**
Diana M. Bower, Massachusetts Institute of Technology, USA
10. **Rapid deployment plasmid production: combining inducible high yield fermentation process with novel autolytic plasmid DNA purification**
Aaron E. Carnes, Nature Technology Corporation, USA
11. **Modified E. Coli B, A superior producer of plasmid DNA compared with E. Coli K**
Joseph Shiloach, Biotechnology Lab NIDDK, USA
12. **Immunogenic display of diverse peptides on virus-like particles of RNA phage Ms2**
David S Peabody, University of New Mexico School of Medicine, USA
13. **Novel techniques for characterization of double and triple-layered rotavirus-like particles**
Maria Candida M. Mellado, IBET/ITQB-UNL, Portugal
14. **Host strain influences on supercoiled plasmid DNA Production in E. Coli; implications for efficient design of Large scale processes**
Sin Yee Yau, The Advanced Centre for Biochemical Engineering, UK
15. **Insights into the effects of culture media and metabolites on adenovirus production**
Chun Fang Shen, Biotechnology Research Institute, Canada
16. **Novel adenovirus 5 vaccine delivery platform which overcomes pre-existing immunity to AD**
Frank R. Jones, Etubics Corporation, USA
17. **Fermentation strategies for the production of recombinant protein antigens in E. Coli**
Willie Sun, Wyeth Pharmaceuticals, USA

18. **Critical process parameter to control productivity in helper-dependent adenoviral vector production**
Amine Kamen, Biotechnology Research Institute, Canada
19. **Production of yellow fever virus in vero cells grown in serum-free medium**
Leda R. Castilho, Federal University of Rio de Janeiro, Brazil
20. **Screening of DNA vaccines prototypes encoding antigen targeting sequences against sleeping sickness**
Gabriel A. Monteiro, Institute for Biotechnology and Bioengineering, Portugal
21. **On the design and production of more stable and efficient plasmid DNA vectors**
Duarte Miguel F Prazeres, IBB-Institute for Biotechnology and Bioengineering, Portugal
22. **Vp7 and Vp4 genotyping of bovine group a rotavirus in México. Towards the development of a recombinant vaccine**
William A. Rodríguez-Limas, Universidad Nacional Autónoma de México, México
23. **293 cells: An alternative cell line for PPRV production**
Paula Marques Alves, ITQB-UNL/IBET, Portugal
24. **Assessment of the thermal stability of Cervarix™**
Diane Doucet, GlaxoSmithKline Biologicals, Belgium
25. **The influence of elevated oxygen partial pressure on specific virus productivities in an influenza vaccine process**
Andreas Bock, Max Planck, Germany
26. **Rotavirus-Like Particle Production: Mathematical Modeling Rational Approach for Process Development**
António Roldão, IBET/ITQB-UNL, Portugal
27. **Development of a cell culture production platform for cold-adapted live attenuated influenza vaccine (CAIV) strains of Flumist®: effects and interactions of medium components, trypsin, and different influenza viruses in process productivity**
Luis Maranga, MedImmune Vaccines, USA
28. **Development of a cell culture production platform for cold-adapted live attenuated influenza vaccine (CAIV) Strains of Flumist®: accelerated development of a fully disposable Phase I clinical manufacturing process**
Luis Maranga, MedImmune Vaccines, USA
29. **Capillary electrophoresis for the differentiation of double-layered and triple-layered rotavirus-like particles**
Laura A. Palomares, Instituto de Biotecnología. Universidad Nacional Autónoma de Mexico, Mexico
30. **Differential expression and functional analysis of e. ruminantium proteins: identification of potential antigens for a subunit heartwater vaccine**
Isabel Marcelino, ITQB/IBET, Portugal
31. **Characterization of a cancer vaccine based on very small size proteoliposome (VSSP) obtained by different formulation processes.**
Vladmir Peña, Center of Molecular Immunology, Cuba
32. **The Silver Anniversary of Clinical Protein production from recombinant CHO cell culture**
Matt Croughan, Rathmann Professor, Keck Graduate Institute, USA
33. **A cell-culture-based platform for viral vaccine production for humans**
Marina Etcheverrigaray, Universidad Nacional del Litoral, Argentina

34. **Rapid mycoplasma testing: The HYMY™ assay combines amplification of viable mycoplasmas in broth culture with signal detection by quantitative polymerase chain reaction (QPCR)**
David Onions, BioReliance Corporation, USA
35. **Comparison of dengue-2 virus production in vero cells under serum-free and serum-containing conditions**
Erica A. Schulze, Federal University of Rio de Janeiro, School of Chemistry, Brazil
36. **Perfusion process for human and animal viral vaccine production in a single use stirred tank bioreactor**
Nicholas Havelange, Artelis, Belgium
37. **Exploiting lymphatic transport and complement activation in th1 stimulating nanoparticle vaccines**
Jeffrey A. Hubbell, Melody A. Swartz, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland
38. **MDCK-based influenza production using Cytodex 3 in a wave bioreactor**
Johanna Norberg, GE Healthcare Bio-Sciences AB, Sweden
39. **Protection induced by pneumococcal surface protein a (pspa) is enhanced by conjugation to a streptococcus pneumoniae capsular polysaccharide**
Luciana C.C. Leite, Instituto Butantan, Brazil
40. **Biodistribution and toxicological safety evaluation of adenovirus type 5 vectored vaccines against ebola and marburg viruses**
Rebecca L. Sheets, Vaccine Research Center, NIAID/NIH, USA
41. **Development of a universal influenza vaccine**
Walter E. Manger, Merck & Co., Inc., USA
42. **Purification of retrovirus vector particles and identification of host-associated proteins by proteomic analysis**
Maria Mercedes Segura, Center of Animal Biotechnology and Gene Therapy (CBATEG), Spain
43. **SPR Technology as a Powerful Tool to Accurately Determine Influenza Virus Concentration**
Camilla Nilsson, GE Healthcare Bio-Sciences AB, Sweden
(presented by Johanna Norberg, GE Healthcare Bio-Sciences AB)
44. **Protective Immune Responses to Pathogenic Influenza Using Consensus DNA Immunogens and Constant Current Electroporation**
Henry Hebel, VGX Pharmaceuticals, USA
45. **Development of a BioVeris-based, Quantitative Immunoassay for Assessing the Quality of a Conjugate Vaccine Candidate**
Charlie Chen, Wyeth Research, USA